

## **ABSTRACT OF THE DISCLOSURE**

The fuel cell system has a membrane unit for separating a hydrogen-enriched fuel for a fuel cell unit from a hydrogen-containing mixture, for example a hydrogen-containing mixture produced by a reforming unit. The membrane unit contains a semi-permeable membrane, which is permeable to molecular hydrogen, and at least reduces the amount of certain undesirable gasses, such as CO and CO<sub>2</sub>, in the stream passing through it. This semi-permeable membrane is economically constructed in comparison to the state of the art, because it is permeable to molecular hydrogen.